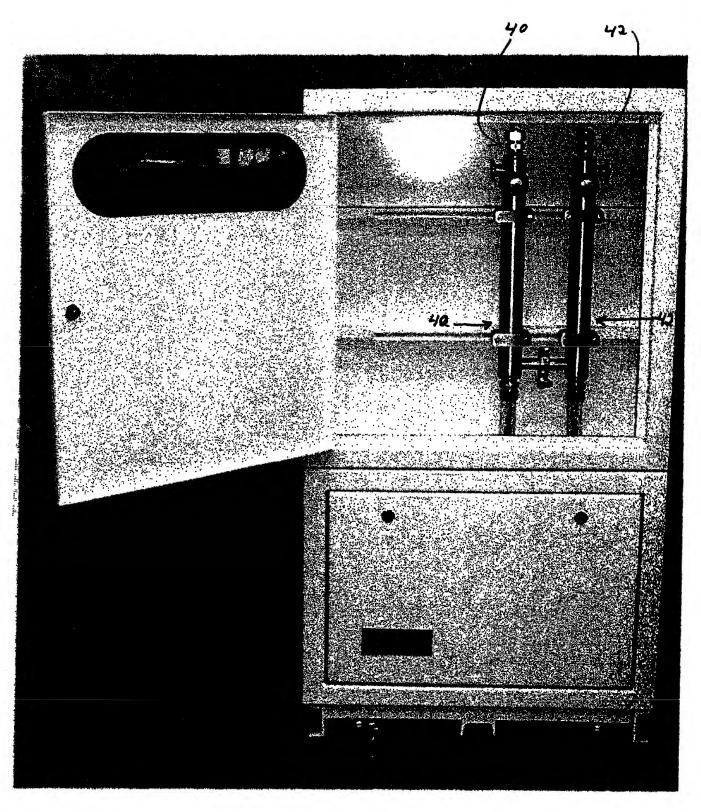
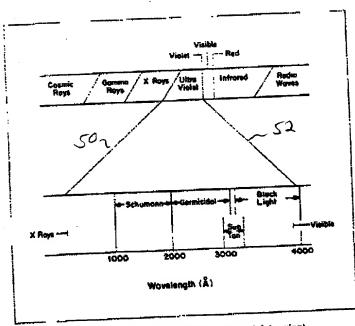
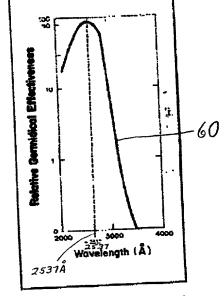


Fig. 4



F16,5





Electromagnetic spectrum (enlargement of ultraviolet region).

F16, 6

Bacterial effectiveness curve anowing the relative affectiveness of various wavelengths in killing bacteria.

F16.7

Ultraviolet light causes adjacent thymines (or cytosines) in DNA to dimerize. The rippled lines at the bottom of the structures represents the deoxyribose-phosphate backbone of the DNA strand.

F16.8

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Result of E- Coli Culture Tests on E-Coli 0157:H7

Culture Read on Cider 9/4/98 (Blood Agar Plates - 3 Dilutions)

•	Cider SIAD Treated 1	Cider SIAD Treated 2	Cider Control E, coli-Not Treated	Cider Cont No E. Coli
.5cc	No Growth	No Growth	Confluent Growtin	No Growth
.1cc	No Growth	No Growth	Some Confluent Growth >10,000 col/ml E.Coli	No Growth
.001cc	No Growth	No Growth	75,000 col/ml E. Coli	No Growth

F/6.9

		8	100	8	83	88	8	22	18	8	6	6	3 5	5	7	0	0	ō	
10	18	18	20	73	22	.24	52	92	28	28	1	06	2 8	20	8	88	44	52	
F	47	47	18	19	24	21	EZ	23	25	26	ac	0.5	07	30	32	35	38	43	1
THE STATE OF THE S	74	781	78	98	83	98	128	88	S	8	300	2	CS.	92	94	95	405	412	1 164.8
Įε	72	7.4	7.8	2 2	2 2	80	28	85	1.0	56	ò	26	92	06	06	OB B	Car	2 5	21.
		2 3	2 9	2 5	2 5	2 5		2 0	2 5	2 (2	10	0	10	10	40	2 5	2 6	IQI.
				300	2000.00	3445 20	2445.20	3113.KU	31.33.60	3113.20	3115.20	3115.20	3115.20	3115.20	3115.20	2404 20	0104.70	3115.20	3115.20
					3	087	087	0000	857	236	236	238	236	236	ar.c	5 682	100	236	<u>88</u>
						2	72	13.2	13.2	13,2	13.2	13.2	13.2	13.9	100	9:01	13.1	13.2	13.2
							R	2	300	300	300	300	300	300	200	300	300	300	305
								8	300	300	300	300	Sep	2000	000	300	300	300	305
								•	15.4	2	5.5	8	A B	27	1	7.5	40	10	428
									5	2	E		5 6	3	8	37	38	eg eg	97

F16.10

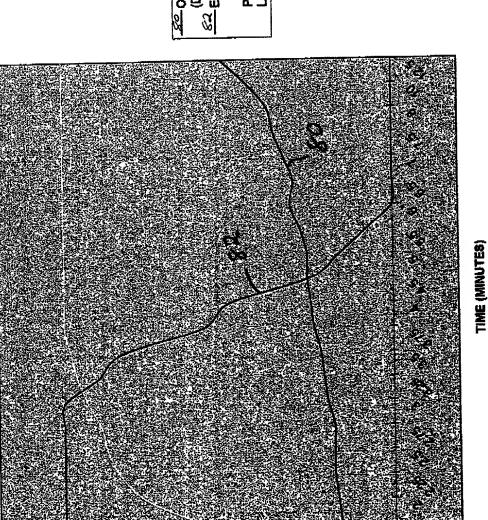
LAMP(W)=LAMP1 ECOL! 100%=10LOG

TEMP4=JUICE OUT TEMP3=JUICE IN

NOTE: SUGAR CONTENT REMAINED CONSTANT IN ALL TRIALS
TEMP1=LAMP1
TUBE2=(OUT)OUTSIDE
TEMP2=LAMP2

TEST ON E-COLI (ATCC11229) INOCLATED ORANGE JUICE

POWER (WATT) OUTPUT OF SIAD LAMPS (%) 82 GRANGE JUICE TEMPERATURE (DEGREES C)



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120

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8

F16.11

5 GAL. TROPICANA GROVESTAND "LOTS OF PULP" ORANGE JUICE INOCULATED WITH E-COLI ATCC 25922

2548.80 10 70 70 16 19 2548.80 10 70 70 16 17 1 2596.00 10 70 72 17 18 1 2714.00 10 72 74 17 18 1 2773.00 10 75 78 18 1 1 2773.00 10 75 78 80 21 22 2773.00 10 76 80 21 22 1 2773.00 10 76 80 21 22 1 2773.00 10 76 80 21 22 2 2937.50 10 82 88 23 26 26 3125.50 10 85 90 25 26 36 3125.50 10 82 95 26 28 30 3125.50 10 10 10 <t< th=""><th>TEMP</th><th>TENE</th><th></th><th>PRIN.</th><th>_</th><th>LAMP(W)</th><th></th><th>TUBE1(F)</th><th>-</th><th>EMP3(C)</th><th>TEMP3(C) TEMP4(C) ECOLI(%</th><th>ECOLI(%)</th></t<>	TEMP	TENE		PRIN.	_	LAMP(W)		TUBE1(F)	-	EMP3(C)	TEMP3(C) TEMP4(C) ECOLI(%	ECOLI(%)
2548.80 10 70 70 70 16 17 1 2598.00 10 70 72 17 18 1 2774.00 10 73 75 18 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1/5 1/5	175	8.5	_	238	2008.00	10	2	70	16	18	100
2598.00 10 70 72 17 18 1 2714.00 10 72 74 17 18 1 2773.00 10 75 76 18 18 1 2773.00 10 75 78 18 18 1 2773.00 10 75 78 80 21 20 1 2937.50 10 76 80 21 22 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 3 3 3 <td< td=""><td>225</td><td>225</td><td>10.8</td><td></td><td>238</td><td>2548.80</td><td>101</td><td>70</td><td>2</td><td>19</td><td>17</td><td>100</td></td<>	225	225	10.8		238	2548.80	101	70	2	19	17	100
2714,00 10 72 74 17 18 1 2702,50 10 73 75 18 18 1 2773,00 10 75 78 18 20 1 2773,00 10 75 78 18 20 1 2937,50 10 76 80 21 22 1 2937,50 10 76 80 21 24 22 3125,50 10 80 85 80 25 26 3125,50 10 87 82 26 26 26 3125,50 10 87 82 26 26 36 3125,50 10 82 95 26 26 36 3125,50 10 95 100 33 36 36 3125,50 10 10 95 10 33 36 3125,50 10 10			11		238	2596.00	10	2	727	+	180	90,
2772.50 10 73 75 18 18 1 2773.00 10 75 76 80 20 22 2773.00 10 76 80 21 22 2937.50 10 76 80 21 22 3125.50 10 80 85 23 26 3125.50 10 85 90 25 26 3125.50 10 87 82 26 26 3125.50 10 87 82 26 26 3125.50 10 87 82 26 28 3125.50 10 95 100 30 33 3125.50 10 10 10 33 36 3125.50 10 10 105 34 37 3125.50 10 100 105 34 37 3125.50 10 100 105 34 3	240	240	11.5		236	2714.00	10	22	74	12	18	100
2773.00 10 75 78 18 20 7 2773.00 10 75 78 20 22 2937.50 10 76 80 21 22 3125.50 10 80 85 23 25 3125.50 10 85 90 25 26 3125.50 10 87 82 26 26 3125.50 10 87 82 26 26 3125.50 10 87 82 26 26 3125.50 10 82 95 26 30 3125.50 10 95 100 30 33 3125.50 10 10 105 34 37 3125.50 10 100 105 34 37 3125.50 10 100 105 34 37 3125.50 10 100 105 34 37		245	11,	10	235	2702,50	10	73	75	100	90	180
2773.00 10 75 78 20 22 2937.50 10 76 80 21 22 3125.50 10 76 80 21 24 3125.50 10 80 85 23 26 3125.50 10 85 90 25 26 3125.50 10 87 82 26 28 3125.50 10 87 85 95 26 28 3125.50 10 82 95 28 30 3125.50 10 95 100 33 30 3125.50 10 10 105 34 37 3125.50 10 100 105 34 37 3125.50 10 100 105 34 37 3125.50 10 100 105 36 42	250	250	11.	×	235	2773.00	10	75	78	18	8	18
2937,50 10 76 80 21 22 3125,50 10 78 82 21 24 3125,50 10 80 85 22 25 3125,50 10 85 90 25 26 3125,50 10 87 82 26 28 3125,50 10 85 93 26 30 3125,50 10 82 95 28 30 3125,50 10 95 100 33 3125,50 10 100 105 34 37 3125,50 10 100 105 34 37 3125,50 10 100 105 34 37 3125,50 10 100 105 34 37 3125,50 10 100 105 34 37 3125,50 10 100 105 34 37		260	11.8	-		2773.00	10	75	78	92	22	92
3125.50 10 78 82 21 24 3125.50 10 80 85 23 25 3125.50 10 85 90 25 26 3125.50 10 85 90 25 26 3125.50 10 87 92 26 28 3125.50 10 87 92 26 28 3125.50 10 92 95 26 30 3125.50 10 95 100 30 33 3125.50 10 100 105 34 37 3125.50 10 100 105 34 37 3125.50 10 100 105 34 37 3125.50 10 100 105 34 37 3125.50 10 100 105 34 37	270	270	12.			2937.50	10	20	80	72	22	83
3125.50 10 80 85 23 25 3125.50 10 82 88 23 26 3125.50 10 85 90 25 26 3125.50 10 87 82 26 28 3125.50 10 85 93 26 28 3125.50 10 82 95 26 30 3125.50 10 95 100 33 36 3125.50 10 100 105 34 37 3125.50 10 100 105 34 37 3125.50 10 100 105 34 37 3125.50 10 100 105 34 37	280	280	13.	3		3125.50	10	78	82	24	24	58
3125,50 10 82 88 23 26 3125,50 10 85 90 25 26 3125,50 10 87 82 26 28 3125,50 10 83 93 26 30 3125,50 10 92 100 33 30 3125,50 10 95 100 33 36 3125,50 10 100 105 32 36 3125,50 10 100 105 34 37 3125,50 10 100 105 34 37 3125,50 10 100 105 34 37 3125,50 10 100 105 34 37 3125,50 10 100 105 34 37	300 300	300	13.	8	235	3125.50	10	80	82	23	25	S
3125.50 10 85 90 25 26 3125.50 10 87 82 26 28 3125.50 10 88 93 26 30 3125.50 10 92 95 28 30 3125.50 10 95 100 33 3125.50 10 100 105 34 37 3125.50 10 100 105 34 37 3125.50 10 100 105 34 37 3125.50 10 100 105 36 42	300	300	13.		235	3125.50	10	82	88	EZ	28	8
3125,50 10 87 62 26 28 3125,50 10 88 93 26 30 3125,50 10 82 95 28 30 3125,50 10 95 100 33 3125,50 10 100 105 34 37 3125,50 10 100 105 34 37 3125,50 10 100 105 34 37 3125,50 10 100 105 36 42	5 300 300	300	13	67	235	3125.50	10	85	08	25	28	200
3125,50 10 88 93 26 30 3128,80 10 92 95 28 30 3125,50 10 95 100 30 33 3125,50 10 100 105 32 36 3125,50 10 100 105 34 37 3125,50 10 100 105 38 42 3125,50 10 112 43 51	300	300	13	63	235	3125.50	10	87	82	82	28	41
3138,80 10 92 95 28 30 3125,50 10 85 100 30 33 3125,50 10 100 105 32 38 3125,50 10 100 105 34 37 3125,50 10 100 105 38 42 3125,50 10 110 112 43 51	300 300	300	13,	6	235	3125.50	10	88	93	26	38	4.1
3125,50 10 95 100 30 33 3125,50 10 100 105 32 36 3125,50 10 100 105 34 37 3125,50 10 100 105 38 42 3125,50 10 110 112 43 51		300	13.	-	238	3138.80	10	28	8	238	38	25
3125.50 10 100 105 32 3125.50 10 100 105 34 3125.50 10 100 105 38 3125.50 10 110 112 43	300 300	300	13,	63	235	3125.50	10	98	100	S	33	8
3125.50 10 100 105 34 3125.50 10 100 105 38 3125.50 10 110 112 43	7.5 300 300 13.3	300	13.3		235	3125,50	10	100	105	32	8	0
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3125.50 10 110 112 43	10 300 300 13.3	300	13.	Ŧ.	235	3125.50	10	18	185	38	42	, G
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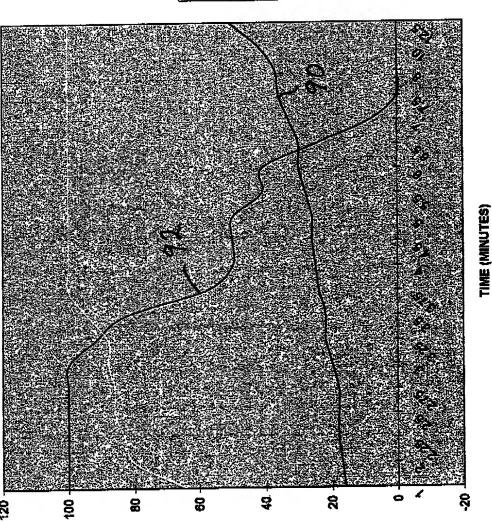
LAMP(W)=LAMP1 ECOLI 100%=10LOG

TEMP3=JUICE IN TEMP4=JUICE OUT

NOTE: SUGAR CONTENT REMAINED CONSTANT IN ALL TRIALS
TEMP! =LAMP1
TEMP2=LAMP2
TUBE2=(OUT)OUTSIDE

TEST ON E-COLI (ATCC 25922) INDCULATED ORANGE JUICE





F/G. 13